

ABSTRACT

A DNA vaccine effective for inhibiting endothelial cell proliferation comprises a DNA construct operably encoding a vascular endothelial growth factor (VEGF) receptor protein. This invention provides DNA vaccines that encode VEGF receptor-2 (KDR, SEQ ID NO: 2), VEGF receptor-1 (Flt-1, (SEQ ID NO: 4), or Flk-1 (the murine homolog of KDR, SEQ ID NO: 6), DNA sequences SEQ ID NOS: 1, 3, and 5 respectively, as well as methods of using such a DNA vaccine to inhibit vascular endothelial cell proliferation in the tumor micro-environment. Anti-angiogenesis and subsequent decrease in tumor growth and dissemination is achieved.